# An Observational Study on Private Equity and Employment in Africa

What is the association between private equity and employment in Africa?

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**Abstract**

Since the 1990s, development financial institutions have promoted private equity (PE) investments to increase funding for capital-constrained companies in developing countries. While academic research has mainly supported these policies, limited focus has been placed on evaluating PE promotion in African countries. Using data from Pitchbook, a financial information service, this study tests the association between PE and employment in African companies. While previous studies found no association in mature markets, recent literature has raised concerns about potential "job destruction" in young markets. This study does not find evidence to support an association between PE and comparatively low employment; on the contrary, PE-backed companies sustain higher employment than comparable companies. This study offers some initial insights into employment and African PE markets, provides policy recommendations, and adds to the literature on organizational forms and financialization in developing countries.

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## Introduction[1]

During the 1980s, private equity (PE) emerged as a novel actor in financial markets. According to Jensen (1986), its innovative organizational form represented a break from the traditional structure of investment firms. Since then, several PE firms have become established actors in national and international financial markets. Accordingly, policymakers have adapted to this development by seeking to attract capital from PE firms to developing financial markets. Both national governments and Development Financial Institutions (DFIs) have adopted policies to drive their investments towards capital-constrained companies in developing countries.

Although the promotion of PE has become a standard development policy, its association with employment remains largely unexplored. Since the 1990s, the prevailing view in academia and policymaking has been that PE firms can contribute capital and managerial skills that allow companies to pursue growth opportunities in developing countries. However, an alternative view, represented by Applebaum & Blatt (2019), has raised concerns about PE takeovers leading to "job destruction" at portfolio companies. These countervailing accounts raise the question of whether PE financing is associated with low employment in Africa.

This analysis uses employment data from Pitchbook, a financial information service, to explore the association between PE financing and employment in Africa. It does not find evidence of an association between PE as an organizational form and "job destruction." On the contrary, the sample of PE-backed companies sustained higher average employment than comparable corporate-backed companies over five years after financing. While PE as an organizational form may not be associated with low employment, the findings do suggest that the

[1]An early version of this project was discussed at the 12th International Students Symposium on Law and Global Issues, organized by Koç University Law Club on May 2024.

transaction type may affect employment. PE-backed companies acquired through buyouts had comparably lower employment than those acquired through growth transactions.

These findings offer a first exploration into this topic without making a causal claim on the effect of PE financing on employment. Estimating its average effect and projecting its evolution are objectives for further research. In addition, while this study considers companies in several African markets, it does not fully account for the idiosyncrasies of their corresponding countries. To produce country-specific analyses also remains an avenue for further research. Despite these caveats, this analysis suggests that policymakers could promote PE without employment losses, and that they should focus on developing countries which are lagging in financial accessibility. Still, they should remain cautious about the high use of leverage in a takeover.

The main finding of this study is that there is higher employment at PE-backed companies than at comparable companies. This high difference could be attributed to PE firms selecting "hidden gems" in young markets. Boucly et al. (2009) refer to "hidden gems" as companies that have growth opportunities but cannot pursue them because they are in countries where their access to financing is limited. Invested capital from PE firms would allow portfolio companies to pursue these opportunities and grow and increase employment. However, observing a difference in employment does not mean that this difference will be sustained in the long run.

Instead, this employment difference may fade as African financial markets continue to develop. If funding becomes more accessible, companies will satisfy their financing needs with more ease, making "hidden gems" scarce. Then, African PE markets could resemble more mature ones, where there is no difference in employment between PE-backed companies and comparable corporate-backed companies (Davis et al., 2014). This long-run projection implies

that the association between PE and employment could depend on a country's level of financial development. Accordingly, PE should be promoted in developing countries where limited financial accessibility suggests the existence of "hidden gems."

**(A) The political conflict over Private Equity**

In the 1980s, PE emerged as an organizational innovation that would overcome the inefficiencies inherent to public corporations. Jensen (1989) projected that this new type of investor would replace corporations by resolving the conflict between owners and managers. Traditional corporations are traded on exchanges, are owned by public shareholders, and have professional management (Pitchbook, 2022). According to Jensen (1989), this characteristic is a central cause of waste in corporations, as managers use free cash flows to fund excessive growth projects that increase the resources under their control instead of paying out dividends.

PE emerged as an alternative model that could maximize value to shareholders. Unlike corporations, it is a form of private financing in which capital is invested through a fund into a company. PE firms manage portfolio companies; they are active investors that scrutinize managers and restructure companies. The ownership of these companies is concentrated in the fund's limited partners (LPs) and general partners (GP), who manage the portfolio companies (Pitchbook, 2022). Since GPs are both owners and managers, they favor payouts over excessive growth, preventing the conflict described by Jensen (1989). Then, the organizational form of PE firms would maximize shareholder value by aligning the incentives of managers with the interests of owners and thus overcome the inefficiency of public corporations.

In addition to their organizational form, PE firms are characterized by the type of transactions that they perform. Pitchbook (2022) records buyouts and growth transactions as

broad types of PE transactions. The central distinctions between these two types are the use of leverage and the amount of equity acquired. In a buyout or leveraged buyout (LBO), a PE firm acquires all—or a controlling stake of a company using cash and debt (Appleblaum & Blatt). The high use of leverage characterizes this type of transaction. In comparison, in a growth or expansion transaction, the PE firm gives a company capital it can use to expand or restructure, usually in exchange for a minority equity stake (Pitchbook, 2022). Its organizational form and the use of leveraged transactions made PE an innovative model among financial market actors.

The view of PE as a superior organizational form has profoundly impacted policymaking. National governments and international institutions have committed public funds to develop PE markets in the developing world. Brazil, China, and India have co-investment facilities that complement financing rounds created by PE (Lerner & Schoar, 2004). For their part, the International Finance Corporation (IFC) and the European Bank for Reconstruction and Development (EBRD) have destined billions of dollars to drive PE funds to developing countries (Brenner, 1999). In 2013, China created a National Equities Exchange and Quotations (NEEQ) that allows the private trade of portfolio companies. Instead of having companies traded in public markets, this platform enables PE firms to invest in portfolio companies privately (Li, Meng, and Wei, 2015). PE promotion has become a standard policy tool for national and international policymakers in developing countries.

The issue has become politically contested, accruing both supporters and detractors. On one side, associations of financial companies have published reports emphasizing the positive effects of PE investment on employment and growth. For examples, see European Venture Capital Association (2005), British Venture Capital Association (2006), and African Private Equity and Venture Capital Association (2022). Policy papers from certain think tanks also find

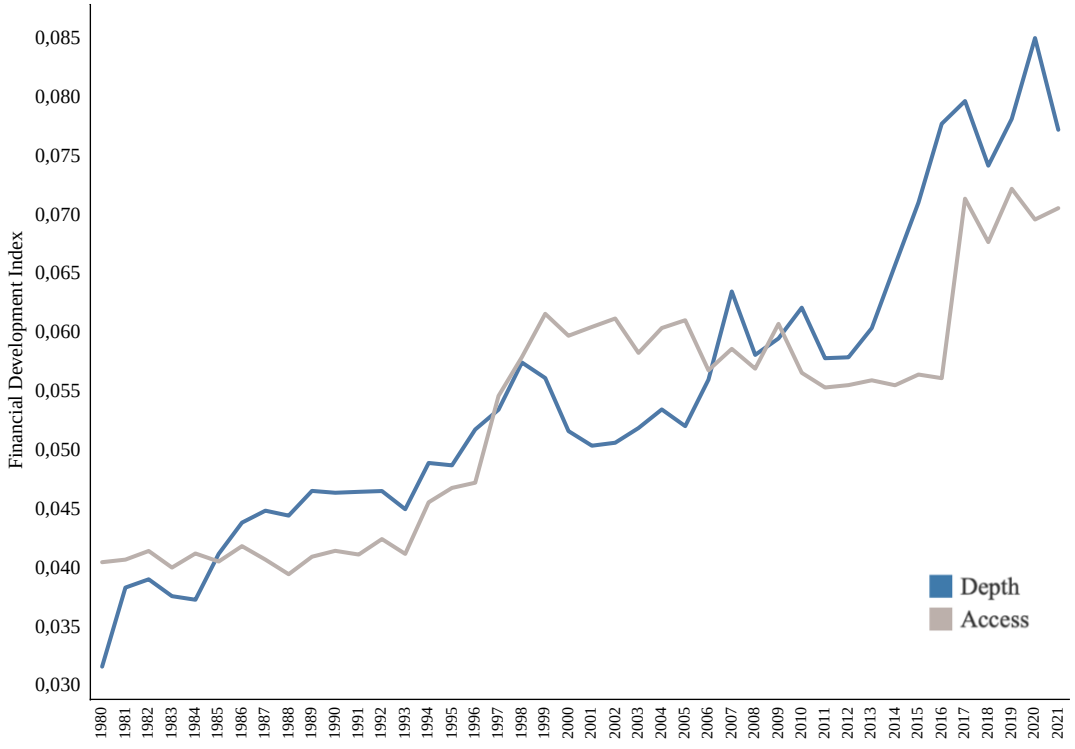
that increases in employment at PE-backed firms offset losses six years after investment. Examples of these include work by The Work Foundation (Inman, 2007) and the Centre for Management Buyout Research (CMBOR) (Wright et al., 2008). The Financial Times mirrored these findings and contributed its analysis of 30 transactions, arguing that jobs were more likely to be gained than lost after a takeover (Taylor & Bryant, 2007). In the US, The Private Equity Growth Capital Council (2007) has compiled and published case studies of how PE has turned around distressed companies with sophisticated management and resources.

On the other side of the controversy, political figures and trade union leaders have raised concerns about the effects on portfolio companies. Former Danish Prime Minister Poul Rasmussen (2008) has said that PE firms "can leave the company saddled with debt and interest payments, its workers are laid off, and its assets are sold, ...benefiting neither workers nor the real economy." John Adler (2007), from the Service Employees International Union, has added: "Typically, it's easier to decrease costs quickly by cutting heads, which is why buyouts have typically been accompanied by layoffs." For a summary of these concerns, read Trade Union Congress (2007). Echoing these claims, US Senator Elizabeth Warren proposed legislation that would require PE firms to assume legal responsibility for the liabilities of their portfolio companies, including debt obligations and employee pensions, to prevent them from "looting companies" and "toppling markets" (Jamerson, 2019). In a 2019 Center for Economic Policy and Research (CEPR) blogpost, Applebaum and Blatt (2019) synthesize the arguments against PE in that its "business model is to strip assets from companies that they acquire."

**(B) Private Equity and 'Financialization' in Africa**

The controversy over PE and employment is now becoming relevant in Africa due to its incipient capital markets. Except for South Africa, African countries remain amongst the world's least financialized (Karkowski, 2020). However, the region's financial market development has followed a sustained upward trend over the past two decades (see Figure 1 below). “Depth” refers to the level of activity and volume of transactions, while “access” refers to the ease with which market actors obtain financial assets (IMF, n.d.). Babarinde (2012) and Fonkam et al. (2019) find that the increased financial depth is a primary driver of PE investment in Africa. They argue that the existence and size of capital markets incentivize PE investment because the availability of exit opportunities is a necessary condition for PE firms to enter a market.

**Figure 1.** Financial Market Development in Africa

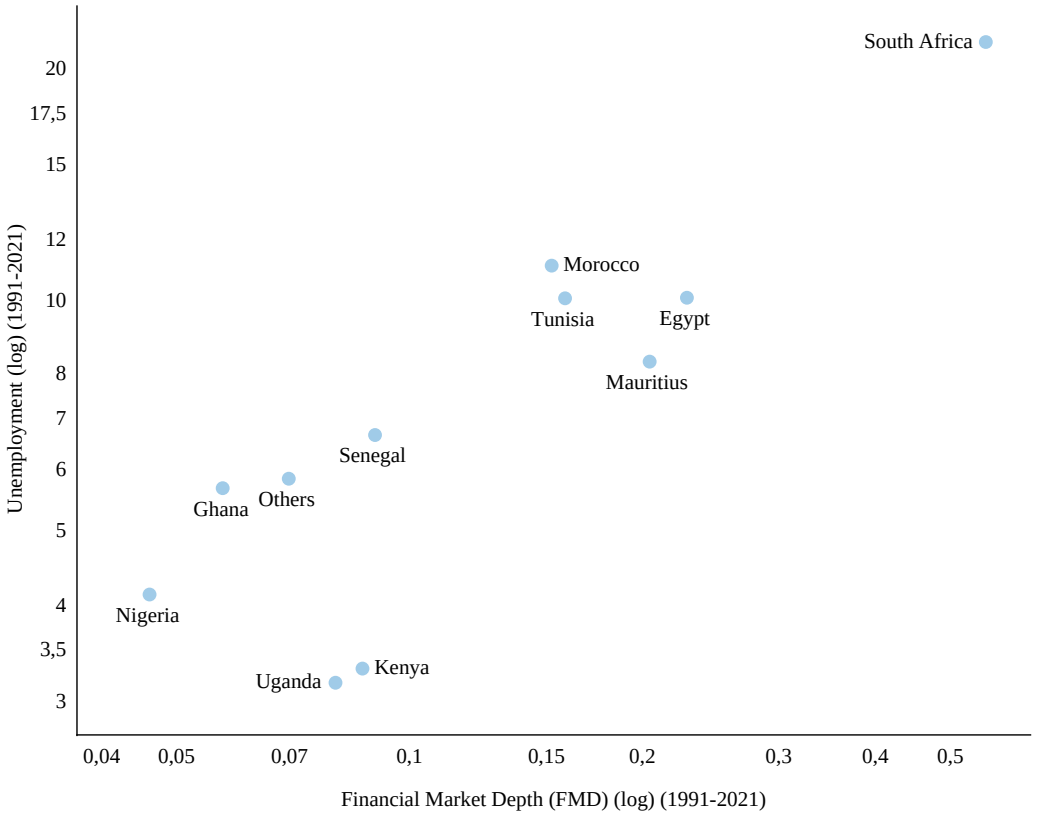



**Notes.** The International Monetary Fund's (IMF) Financial Development Index Database presents annual indexes to indicate the levels of access and activity in African capital markets. The Financial Market Access Index (FMA) compiles data on the percent of market capitalizations outside of the 10 top largest companies and the total number of debt issuers (domestic and external, non-financial, and financial corporations) per 100,000 adults. The Financial Markets Depth Index (FMD) compiles data on international debt securities of government to GDP and total debt securities of financial and non-financial corporations to GDP.

This continuous financial development has enabled the emergence of PE markets in several African countries. The African Venture Capital Association (AVCA) reports a sustained increase in the activity of PE firms in the region since the number of transactions reached a record in 2014 (AVCA, 2022). In addition, international institutions have supported nascent PE markets in several countries in the region. The European Investment Bank (EIB) has contributed USD 1600 million to a joint venture with the African Development Bank to co-finance PE funds in Sub-Saharan Africa (EIB, 2023). While industry associations and international institutions have encouraged PE firms to acquire portfolio companies in Africa, the potential employment costs of these investments are rarely accounted for. For this reason, scholars in International Political Economy (IPE) have developed a research agenda that calls attention to the social costs and negative spillovers of financial market development in developing countries.

The concerns of politicians and trade union leaders over the spillovers of PE investment relate to a broader scholarship on "financialization" in developing countries. "Financialization'' is defined by Epstein (2005) as the increasing role of financial motives, markets, actors, and institutions in the domestic and international economy. Bortz and Kaltenbrunner (2018) describe financialization as a heterogeneous process that can contribute to uneven development and the subordination of developing countries. Karwowski (2020) compiles indicators of financial activities in companies, households, and economic sectors to show broad variegation within and across regions in the financialization of developing countries.

**Figure 2.** Unemployment and Financial Market Depth in African PE Markets




**Notes**. A linear trend model is computed for average yearly unemployment given the average yearly FMD. Trendline: *Unemployment = 34,3(FMD) + 2,8*. The model may be significant at $p \leq 0,05$. R-Squared: 0,896. Standard error: 1,788. P-value (significance): < 0,0001. Unemployment data was collected from employment rates from the ILO Data Explore. This rate conveys the number of unemployed persons as a percentage of the labor force, including the employed and unemployed. The FMD index from the IMF Financial Development Index Database indicates the activity level in a capital market. The countries selected are leading PE markets in the region (AVCA, 2022).

The variegated financialization of developing countries may pose obstacles to their development. Van der Zwan (2014), Levy-Orlik (2013), Bonizzi (2013), and Krippner (2005) have associated financialization with underemployment, deindustrialization, reduced investments, financial instability, and a redistribution of resources favoring shareholders over other stakeholders. If the concerns raised by opponents of PE are accurate and the takeover of mature companies by PE firms leads to layoffs and reductions in the workforce, PE promotion may pose risks to the development of African countries. The intersection between negative spillovers of financialization and developing African PE market motivates this research.

Therefore, the purpose of this study is to explore the association between PE investment and employment levels using observational employment data at African PE-backed companies. As a first approach to this topic, the average annual unemployment rate and financial market depth for African PE markets were plotted in Figure 2. In this linear model, an increase of 0.05 in a country's financial market depth is associated with an increase of 1.72 in its unemployment rate. The trend model computed in Figure 2 suggests a positive association between PE activity and unemployment that merits further research on employment at African PE-backed companies.

The following section offers a review of the academic literature on PE and employment. It identifies three main gaps: there is ambiguity in the theoretical expectations of different strands of research; there are contested empirical results on the effects of employment; and there has been limited focus on Africa. As a first approach to fill these gaps, a sample of PE-backed companies was first matched to a group of corporate-backed companies according to a series of covariates and then compared in its average employment over five years after financing.

The methodology section explains how the sample data was collected and details the matching design. Then, the findings section presents and interprets the main results, followed by a discussion of future research avenues. These are categorized into two main objectives: producing an estimand for the average effect of PE financing on employment and projecting the long-run impact of PE markets on employment. Finally, the conclusion reiterates the main findings and elaborates their implications for policymakers.

**Literature Review**

There is considerable interdisciplinary interest in the effects of PE takeovers in the academic literature. Economists hold a longstanding interest in how ownership changes affect companies, and scholars from International Political Economy (IPE) have developed a research agenda on the spillovers from financial markets. Nevertheless, three main gaps remain in the literature on PE and employment. First, there is ambiguity in the theoretical expectations of the effect of PE on employment. Second, the empirical results are contested due to methodological challenges. Third, limited focus has been placed on developing markets in general and African countries in particular. These gaps in the literature underscore the need to research PE markets and employment in Africa.

Jensen and Meckling (1976) describe conflicts between managers and owners as a downside to public corporations compared to PE firms. "Shareholder theory" understands managers as the agents of company's shareholders; they manage the company's resources on their behalf, with the duty to do so in their interests (Jensen & Meckling, 1976). However, because there is a gap in the interests of agents and principals, managers may shirk this duty and defer payouts. They can use this free cash flow to finance projects internally to increase the resources under their control, which is positively associated with their compensation (Jensen, 1986). Deferred payouts and the inefficient use of resources are agency costs for shareholders, which are a part of the overall transaction costs that they face for owning a company.

Wright et al. (2019) offer an overview of how PE reduces agency costs. First, it resolves the conflict over free cash flow because it unifies management with ownership. As managers acquire equity, they gain a financial incentive to maximize the value of the company (Jensen,

1986; Thompson & Wright, 1995). Second, PE firms are active investors who scrutinize manager behavior. Since they have an equity stake in their portfolio firms, PE firms are incentivized to exert oversight and control over managers through the board of directors (Kaplan & Strömberg, 2009). Finally, debt can discipline the use of free cash flow. When the transaction is done through a buyout, managers must service interest payments, encouraging them to generate cash and discouraging discretionary spending (Rozeff, 1982; Easterbrook, 1984). Indeed, the PE business model can reduce agency costs by increasing the control of shareholders over management and aligning their interests.

Financial economists within the growth perspective have argued that PE firms may relax financing constraints in developing countries. From this perspective, PE firms give financially constrained companies professional management and capital to pursue growth opportunities. First, PE investors monitor companies before the transaction, solving the lack of information that inhibits investment (Lerner & Schoar, 2004). After financing, they closely monitor and restructure companies in settings where managerial skills are lacking (Cornelli and Yosha, 2003). Lastly, managers acquire equity, so they have a financial incentive to maximize shareholder value.

These incentives reduce agency costs by resolving the conflict of interest between owners and managers (Kaplan & Strömberg, 2009; Wright et al., 2019). Reducing agency costs lowers overall transaction costs and thus incentivizes investments. The invested capital allows portfolio companies to pursue growth strategies and increase employment (Wright et al. 2000, 2001). Therefore, the growth perspective on PE poses a tradeoff for companies in developing countries; they give up managerial control in exchange for capital that enables growth.

However, another strand of academic literature has developed opposing theoretical expectations. Within International Political Economy (IPE), there is an alternative research agenda on the adverse effects of' 'financialization." Scholars in this literature describe how the pressure from financial markets can drive non-financial corporations (NFCs) to cut costs and downsize the labor force. Krippner (2005) and Epstein (2005) offer a historical overview of how the financialization of non-financial corporations (NFCs) has led managers to prioritize shareholders over other stakeholders. In "Private Equity at Work" Applebaum and Blatt (2014) present the view that PE takeovers are associated with "job destruction""

Through several case studies, Applebaum and Blatt (2014) pose that financial incentives make managers engage in high-risk behavior. They claim that by putting the shareholders in charge of management, the PE business model induces a more aggressive pursuit of shareholder value at the expense of other stakeholders. Managers under PE firms and GPs tend to make substantial use of debt to maximize company's value in the short run and successfully exit the investment. However, this strategy may drive the acquired company into bankruptcy as it must service interest payments on the debt and pay fees to the PE firm (Applebaum & Blatt, 2014). Particularly in leveraged buyouts, the need to service the debt that financed the acquisition can pressure managers to sell assets and lay off workers, possibly compromising the company's performance.

Applebaum and Blatt (2014) argue that potential bankruptcy costs are not evenly distributed between stakeholders. A portfolio company going out of business implies a capital loss for LPs and unemployment for workers. In comparison, GPs only risk losing their minority equity stakes but are otherwise not held accountable if a company under their control goes bankrupt. There is then a moral hazard, since the GP who decides to take on debt that the

portfolio company is obligated to repay bears very little of the associated costs. By putting the shareholders in charge of companies even more, the PE business model would offer a test for the employment costs of pursuing shareholder value. The need to achieve short-run returns from the companies they acquire would leave companies saddled with debt and put workers at risk of unemployment.

In addition to ambiguous theoretical expectations, the empirical evidence is contested. Early studies in the United States found no evidence of "job destruction"" Jensen (1989), Shleifer and Summer (1988), Kaplan (1989), and Muscarella and Vetsuypens (1990), among others, discuss the effects of PE takeovers based mainly on case studies and small samples of up to 76 companies. Mostly, these found moderate or negligible reductions in employment at PE-backed companies relative to publicly traded companies. Aldatmaz and Brown (2020), and Kearney (2007) use industry-level employment data to find a positive spillover effect on employment in other companies. In the UK, Wright, Thompson, and Robbie (1992) and Amess and Wright (2007) find small reductions in employment. In contrast, Boucly et al. (2009) find rapid employment growth after French PE takeovers. They attribute this to PE relaxing financing constraints on companies in France.

The most robust results come from a series of extensive difference-in-difference analyses by Steven Davis and his colleagues. Their 2008 paper uses employment data from 5,000 US companies acquired in a PE transaction from 1980 to 2005 (Davis et al., 2008). In 2011 and 2013, two subsequent papers used a smaller sample size of 3,200 PE-backed companies from 1980 to 2005 (Davis et al., 2011, 2013). All three papers compute the average employment at PE-backed companies before and after being acquired and compare them to a selected group of

companies acquired by a corporation. They matched each target (PE-backed company) to a comparison (Corporate-backed company) that received investment in the same year, was in the same industry, and had comparable age and size. The authors estimate the employment effect from the mean difference between the target and comparison groups before and after financing.

Davis et al. (2008) indicate that employment in PE-backed companies shrank by 6.7 percentage points two years after the acquisition and ten percentage points after five years relative to controls. However, the authors reached a different conclusion in the later studies: a job loss of less than 1 percent after two years and an insignificant effect in the long run (Davis et al., 2011; 2013). Applebaum and Blatt (2014) dispute the findings of the latter papers because they include the effects of acquisitions. They argue that PE-owned companies tend to acquire more establishments[2] than Corporate-owned companies, which reduces the difference in employment. Then, these jobs were not created but transferred without net job creation for the economy.

Applebaum and Blatt (2014) levied two criticisms against the empirical research on PE and employment. The first was that since the high use of leverage could make PE-backed companies more prone to go out of business, only considering companies that stayed in business might obscure employment losses. Early studies, such as Jensen (1989) and Kaplan (1989), are subject to the selection bias of only considering "surviving" companies. The second criticism is particular to the methodology of Davis et al. (2011; 2013). Through mergers and acquisitions, a company could acquire employees from other companies without increasing overall

[2] An establishment refers to a work site, like a store, warehouse, or office. A company can be a single establishment, or it can have multiple establishments (Applebaum & Batt, 2014).

employment. Then, the high employment in PE-backed companies found in these papers could be due to the restructuring of companies.

Besides ambiguous theoretical expectations and contested empirical results, the research on PE and employment has largely omitted African markets. While some studies, such as Lerner and Schor (2004) and Groh (2009; 2014), analyze PE in developing countries, they cite limited data availability as the reason for excluding African markets. Others, like Babarinde (2012), focus on African PE but do not focus on employment outcomes. Davis et al. (2014) underscore the need to investigate experiences in developing countries. While the US PE market is interesting due to its large size and maturity, it may not reflect experiences in other countries. Davis et al. (2014) recognize that the impact of PE might differ depending on corporate governance, legal institutions, financial depth, and economic development. These last two factors are particularly relevant in African countries. In this environment of little financial depth and low development, high financing constraints and limited growth opportunities may constrain the impact on employment.

Moreover, the literature on financialization posits that the foreign origin of funds may enhance "job destruction." These adverse effects on employment may be particularly relevant in African countries because PE investors in the region tend to be highly concentrated and foreign (EIB, 2023). Clark and Wójcik (2002) claim that foreign PE investors prefer sectors with short-term returns and low labor intensity because they are more liquid and easier to exit in the short term. Therefore, countries where PE investment is mainly foreign would not experience a positive impact on employment. Guery et al. (2017) claim that this is because foreign owners of PE funds do not rely on long-term relations with domestic stakeholders such as governments or

workers. They studied PE investment in France and found that foreign investments are more likely to lead to layoffs than domestic investments.

The theoretical expectation derived from the literature on financialization is that there are employment costs to a policy of PE promotion in developing countries. In this account, PE financing is associated with lower employment than corporate financing in two main ways. First, their organizational form places mostly foreign shareholders in control of management, and they are more prone to cut costs by reducing employment. Second, the transaction type can increase employment costs. Applebaum and Batt (2014) hold that since companies acquired through a leveraged buyout must service this debt, they face higher pressure to cut costs. In this theoretical model, the organizational form of PE is associated with lower employment outcomes, and the transaction type moderates this relation because using leverage in a transaction would increase the employment costs of PE financing.

From this theoretical model, the following hypotheses are drawn. First, the null hypothesis is that there is no statistically significant difference between the employment outcomes of PE-backed African companies and comparable corporate-backed companies. This outcome represents the status quo from Davis et al. (2011; 2013), who found no meaningful difference in employment at PE-backed firms. The alternate hypothesis is that there is a statistically significant difference between PE-backed African companies and comparable corporate-backed companies. A meaningful difference would indicate that PE financing may be associated with some outcome. If this difference were negative, this would suggest that PE-backed African companies have lower employment outcomes than comparable corporate-backed companies. Such an outcome would be consistent with the theoretical expectations of the literature on financialization.

Null hypothesis

$$H_0: \left|\bar{y}_{\ PE-backed\ t} - \bar{y}_{\ Corporate-backed\ t}\right| = 0$$

Alternate hypothesis

$$H_1: \left|\bar{y}_{\ PE-backed\ t} - \bar{y}_{\ Corporate-backed\ t}\right| \neq 0$$

Otherwise, if the difference in means was positive, PE-backed African companies have higher employment outcomes than comparable corporate-backed companies. This would be taken as evidence against PE financing being associated with "job destruction" Moreover, a secondary hypothesis regards the transaction type. From the literature on financialization, it is expected that PE-backed companies acquired through a buyout will have lower employment than those acquired through a growth transaction. This outcome would support the moderating effect of the transaction type on the association between PE financing and employment, as posited in Applebaum and Blatt (2014). This paper will test these hypotheses on a sample of African companies to explore the association between PE and employment.

**Methodology**

This paper uses observational data collected from a financial information service to conduct a series of unequal variance t-tests comparing a sample of PE-backed companies to a cluster of Corporate-backed companies. This research started with the selection of a data source and outcome variables. Second, a sample of PE-backed companies was collected and matched to a group of comparison companies. The matching design followed the literature in selecting Corporate-backed companies as a comparison group and identifying covariates to control. Table 1 summarizes the components of this analysis; it lists the two groups of companies, the seven covariates that were controlled, and the three outcome variables considered. This research design draws from the evaluation of development programs and observational studies in financial economics.

Table 1: Research Design

| Considered Groups | Controlled Covariates | Outcomes Variables |
|---|---|---|
| (1) **Target**. PE-backed companies.<br>(1.1) PE financing in a Buyout transaction<br>(1.2) PE financing in a Growth transaction.<br>(2) **Comparison**. Corporate-backed companies. | 1. The country in which a company is based.<br>2. Company's primary industry.<br>3. Company's age in the year 2023.<br>4. Revenue on the year of investment.<br>5. The amount of financing that a company receives from its investor.<br>6. Whether the investor is based in Africa.<br>7. The AUM of company's investor. | (A) Number of employees three to over five years after financing.<br>(B) Number of companies going out of business three to over five years after financing.<br>(C) Number of companies being merged or acquired three to over five years after financing. |

**Notes**. This table was adapted from a similar figure in Kasy (2016), which offers a guide to conducting observational studies. Data on these variables was collected from Pitchbook, a financial information service property of Morning Star Inc. Company's industry is based on the seven industry labels identified in Pitchbook. Investor's asset under management (AUM), the amount of the financing received by a company, and company's revenue are recorded in millions of USD. Age was computed as the difference between 2023 and company's founding year.

Randomized Control Trials (RCTs) are regarded as the "gold standard" in assessing policy interventions for development. These perform statistical tests on the mean difference

between target and control groups. The target group consists of units that received treatment, and the control group is drawn from untreated units in the studied population. RCTs use random treatment assignment to create a control group that approximates the counterfactual, that is, the outcome of the treated group had it not received treatment. For an overview of this method and its limitations, see Duflo et al. (2008) and Deaton and Cartwright (2016; 2018). For examples of its applications, consult Das et al. (2016), Dupas (2011), or Jensen (2010).

In terms of program evaluation, the "treatment" being studied is financing from a PE firm, and the treated units are a sample of African companies that received this financing. As in the evaluation of policy interventions, the test statistic of interest is the difference between the mean values of the target and comparison groups. These were compared through a t-test, known as Welch's t-test, an inferential statistic to determine if there is a statistically significant difference between the means of the two samples. Welch's t-test was chosen because it offers an appropriate evaluation of the statistical significance when the assumptions common to large samples do not hold. Since it considers the different variances of two independent groups, it provides a more robust test for significance over small samples than the traditional Student's unpaired t-test, which assumes equal variance across groups. West (2021), Derrick and White (2016), and Ahad et al. (2012) offer examples and further reasoning for the use of Welch's test on small samples.

In financial economics, most of the research on PE has relied on observational studies. Therefore, this research draws from this literature for the purposes of development program evaluation. A consequential limitation of the standard methods for evaluating programs is that they are restricted in their objects of study. Since research on PE has companies as a unit of analysis, conducting an RCT is unfeasible due to resource constraints, high costs, and ethical

considerations. Woolcock (2009) argues that observational studies should be applied when the needs of project evaluation exceed the availability of experimental data. This rationale applies to the current setting, where there is a need to research PE in Africa, but obtaining experimental data is not feasible. Kasy (2016) offers a guide to conducting observational studies, and examples can be found in Davis et al. (2014) and Almond and Currie (2011).

A key aspect of observational studies is the stable unit treatment value assumption (SUTVA). In their methodological overview, Roth et al. (2023) explain that SUTVA holds that a given unit's outcome does not depend on the treatment status of some other unit. Novignon (2021) and Bending et al. (2021) provide examples of this assumption in observational studies for project evaluation in Africa. For this analysis, SUTVA implies that employment at a given company is independent of whether another company received PE financing. Since neither the organizational restructuring nor the capital from a PE takeover seems prone to spillover from a target company to another independent company in the same industry, it is reasonable to assume that PE financing on a target company does not affect the outcomes of a comparison firm.

The matching design is critical to conduct a valid observational study because observational data is drawn from a setting in which the researcher does not control treatment assignment. Kasy (2016) and Davis et al. (2014) emphasize the importance of two aspects of matching target units to their comparison. The first is identifying a comparison group that approximates the counterfactual. While causal inference is not the objective of this paper, it still faces the problem described in Holland (1986) as the empirical impossibility of observing both a phenomenon and its counterfactual. Indeed, one cannot observe the outcomes of a PE-backed company, and the outcomes of the same company had it not received PE financing

simultaneously. Therefore, a group of companies that approximate the target companies had they not received PE financing must be identified.

The second critical aspect is controlling for relevant covariates. Because treatment is assigned randomly in RCTs, it is assumed that observed and unobserved covariates are balanced between the groups. However, PE firms do not select companies for financing at random. They choose companies based on characteristics that make them inherently different from those not chosen (Badawi et al. 2019, Davis et al. 2014). It follows that it is necessary to identify and control for potential unbalanced covariates between the target and comparison groups. The following sections detail the steps taken in data collection and matching design. First, the selection of Pitchbook (2022) as a data source and the choice of outcome variables are explained. Second, data collection and matching design are covered. Third, how the comparison group was selected and how relevant covariates were identified is explained.

**(A) Data source**

The first obstacle to this research is the availability of employment data on PE-backed African companies. Research on other regions integrates different private and public datasets to track the number of employees at companies that received financing from a PE firm. For instance, Davis et al. (2014) use Capital IQ's financial information service to identify PE-backed companies and match them to employment data from the US Census Bureau's Business Register. However, these data sources are primarily unavailable in developing markets, which often lack the institutions that compile and make company-level data available and accessible. For their part, PE firms do not directly publish employment data on their portfolio companies. While

public investors such as the EIB disclose which funds they support, they do not usually make employment data available.

These limitations are particularly acute in African countries, as the region has some of the least developed PE markets. Lerner and Schor (2004) and Groh (2009; 2014) cite limited data availability as the reason for excluding African markets from their analyses of PE in developing countries. However, since a boom in transactions in the region in 2014, PE firms with African portfolio companies have made company-level data increasingly available in financial information services (AVCA, 2022). This study leverages this development by collecting data from Pitchbook, a financial information service by Morning Star Inc. Like Capital IQ, Pitchbook specializes in tracking PE transactions worldwide. Unlike other services, it displays a company's "investor type" to identify which companies received financing from PE firms and shows their self-reported employment data under "employee history." This advantage eliminates the need for a separate dataset with employment data that can be matched to the register of PE-backed companies.

In addition to the number of employees, data available at Pitchbook allows the observation of  which companies in the sample went out of business or were merged and acquired. These outcomes allow one to account for the incidence of bankruptcy and the reorganization of companies in the period considered. Companies with an ownership status of "merged/acquire" or "out of business"" were recorded as such to account for these outcomes. This data allows this research to overcome the two criticisms Applebaum and Blatt (2014) levied on the research of Davis et al. (2011; 2013). The first was that only considering companies that stayed in business might obscure employment losses. Second, through mergers and acquisitions, a company could "acquire" employees from other companies without increasing overall

employment. Recording these two additional company-level outcomes allows this research to account for the potential distortions of survival bias and company reorganization on employment outcomes.

**(B) Data collection and matching design**

The sample of African PE-backed companies was selected using Pitchbook's company search tool. Following Davis et al. (2014), a series of restrictions were applied to the database of portfolio companies. First, companies had to have their headquarters recorded in Africa, and second, they had to have received their first financing from a PE firm. Results were filtered to leave companies with a "PE-backed" investment status in which both investor type and first financing were "Private Equity""

This left a universe of 574 PE-backed African companies that received financing from 2014 to 2023. Third, companies with insufficient employment data had to be omitted. Companies were excluded from the search if they missed data on their "Employee history" on the year of financing and three to five years after. This time frame for data collection is common practice in the literature, as both Davis (2014) and Stromberg (2008) consider employment outcomes for up to five years after a transaction because this is the typical holding period for target firms.

Applying these restrictions on Pitchbook's search tool left a sample of 120 African companies that received financing from a PE firm from 2017 to 2020 and had employment data available three to five years after the first financing. While considerably smaller than the sample in Davis et al. (2014), a sample of 120 companies is relevant to the scale of African PE markets. This sample size accounts for 37,85% of the total PE transactions recorded in Pitchbook between 2017 and 2020 in Africa. Further, the sample size is larger than the yearly average of 40

companies that received PE financing each year from 2014 to 2023. Figure 3 in the Annex represents the coverage of the sample over the universe of African PE transactions recorded in Pitchbook. Since Pitchbook categorizes PE-backed companies according to the "transaction type" each portfolio company was recorded as being acquired either through a "Buyout/Leveraged Buyout (LBO)" or a "Growth/Expansion" transaction.

Table 2: Descriptive Statistics

| | Target group | | | Comparison group |
|---|---|---|---|---|
| Mean values | Transaction type | | | |
| Companies | 1. PE-backed | 1.1 Buyout | 1.2 Growth | 2. Corporate-backed |
| (1) Financing size | 111.94 | 130.53 | 86.09 | 82.15 |
| (2) Age | 23.65 | 23.83 | 23.4 | 22.46 |
| (3) Revenue | 203.21 | 186.43 | 236.75 | 61.40 |
| Investors | | | | |
| (4) AUM | 20136.11 | 121045.50 | 21354.17 | 25127.04 |
| (5) Africa-based | 0.59 | 0.72 | 0.63 | 0.58 |
| (6) AUM in Africa | 2897.748 | 1126.62 | 3499.84 | 3031.17 |
| Sample size (n) | 120 | 42 | 78 | 120 |

**Notes.** An investor's asset under management (AUM), the amount of the financing received by a company, and company's revenue are recorded in millions of USD. Whether an investor was based in Africa was recorded with a dummy variable that serves to count how many investors from each group have their headquarters in the continent.

Following the practice in the literature on observational studies, the 120 PE-backed companies were first matched to corporate-backed companies that received investment in the same year. The lists of target and comparison companies were matched according to country and industry. Pitchbook classifies companies into one of seven primary sector labels. Then, from this list of companies in the same country and industry, comparison companies that were closest in the size of the financing they received, their revenue, and age to the target company were selected. The result was a list of 120 corporate-backed companies, each matching a target company in the four variables. Each comparison company has the same country and industry and

approximates the financing size, revenue, and age of one of the target companies. In addition, the number of investors based in Africa and the size of their AUM were recorded for each group.

For the most part, this matching design was successful at producing a suitable comparison group. The balance test in Table 3 shows no statistically significant difference between the sample of PE-backed companies and the comparison group of Corporate-backed companies. Hence, these results do not reject the null hypothesis that there is no significant difference between these two groups. It should be clarified that even though these two groups are balanced on these observed variables, they may be unbalanced on some unobserved variable that falls beyond the scope of this research.

Table 3: Balance Test on Observed Covariates

| Difference between target and comparison groups | Companies | | | Investors | | |
|---|---|---|---|---|---|---|
| | Financing size (1) | Age (2) | Revenue (3) | AUM (4) | Africa-based (5) | AUM in Africa (6) |
| 1. PE-backed | 29.79 | 1.19 | 141.8 | -4990.93 | 0.01 | -133.43 |
| | (74.8) | (1.69) | (96.8) | (12579.81) | (0.03) | (1280.15) |
| p-value | 0.688 | 0.481 | 0.147 | 0.692 | 0.828 | 0.917 |
| Transaction Type | | | | | | |
| 1.1 Buyout | 241.86 | 1.37 | 125.03 | -4081.54 | 0.14** | -1904.55 |
| | (84.94) | (2.17) | (127.85) | (15278.87) | (0.04) | (1116.97) |
| p-value | 0.57 | 0.528 | 0.333 | 0.79 | 0.002 | 0.09 |
| 1.2 Growth | 3.95 | 0.94 | 175.35 | -3772.87 | 0.05 | 468.67 |
| | (80.24) | (1.83) | (116.24) | (13527) | (0.04) | (1636.41) |
| p-value | 0.961 | 0.608 | 0.144 | 0.781 | 0.254 | 0.775 |

**Notes**. This table was adapted from Jensen (2010) for this study. The null hypothesis is that the average value is the same at PE-backed and Corporate-backed companies ($H_0$: $\left|\bar{y}_{PE-backed_t} - \bar{y}_{Corporate-backed_t}\right| = 0$ ). The standard error for each t-test is reported in parentheses. Statistical significance: p-value < 0.001: *** (3 stars), p-value < 0.01: ** (2 stars), p-value < 0.05: * (1 star).

When it comes to transaction type, a statistically significant difference was found for companies acquired through a buyout on the number of investors based in Africa. This indicates that African PE-backed companies acquired through a buyout had a higher number of Africa-based investors than the comparison group. However, they did not have a statistically significant

higher AUM in Africa than the comparison. While this difference is minor, it should be noted when analyzing the results regarding the transaction type. The following sections explain two critical choices of this matching design: how the comparison group was selected and how relevant covariates were identified.

**(C) Selecting a comparison group**

Kasy (2016) and Davis et al. (2014) emphasize the importance of selecting a comparison group with a level of employment comparable to the companies that PE firms finance. The purpose of this is to make a comparison that will offer a "hard test" to PE-backed companies by comparing them to similar companies that received another type of financing. As Figure 7 in the Annex shows, the average number of employees at PE-backed African companies is higher than those at companies backed by the other five types of investors considered in Pitchbook. It follows that comparing companies backed by PE and those backed by an investor type like Venture Capital (VC) would not be valid. While VC investors are characterized by financing immature companies with fewer employees, PE firms usually finance more mature companies with more employees. Therefore, comparing employment levels would predictably yield a difference in favor of PE-backed companies.

This does not mean that units for the comparison group should be chosen on their level of employment. A comparison group of companies selected for their high employment levels could lead to the reverse problem of creating a standard that is too high for PE-backed companies to clear. Instead, a suitable comparison requires identifying a type of investor that finances companies that resemble those selected by PE firms. To construct this comparison group, Amess and Wright (2007), Boucly et al. (2009), and Davis and his colleagues (2008; 2011; 2013; 2014)

select a group of corporate-backed companies as controls for their samples of PE-backed companies. Like PE firms, corporate investors tend to acquire equity in mature companies with more employees than other investor types. Therefore, corporate-backed companies are an adequate comparison group for PE-backed companies.

Indeed, the similarity between PE-backed and corporate-backed companies can be verified on Pitchbook's database. Figure 8 in the Annex displays the difference in the average number of employees between PE-backed companies and companies backed by five other investor types over eight years. It shows that corporate-backed companies are the group that most approximates and even surpasses the average number of employees at PE-backed companies. Therefore, the outcome of comparing the employment levels of these two groups is uncertain. It follows that corporate-backed African companies offer a higher standard of comparison on employment than the other investor types.

**(D) Identifying covariates**

The existing literature offers a source to identify relevant variables that should be controlled. Caves (1998), Haltiwanger et al. (2013), and Davis et al. (2008; 2011; 2014) control a company's industry, its age, revenue, and the size of the financing that it received in their respective studies on PE financing and employment. Practitioner accounts suggest a concentration of PE investment in industries undergoing restructurings due to deregulation, openness to foreign competition, or technological change. Moreover, the literature on firm dynamics concludes that employment size varies systematically with a company's age and revenue. For these reasons, Davis et al. (2014) argue that it is necessary to control for industry, revenue, age, and financing size to draw a valid comparison.

The need to control for these variables can be verified in Pitchbook's database of PE-backed African companies. The distribution of PE-backed African companies across countries is not random; they are disproportionately concentrated in South Africa. They also focus on a few industries, primarily business-to-business services, and products. In the Annex, Figures 4 and 5 display the distribution of PE financing across African countries and industries. PE-backed firms also tend to be older and have a higher revenue than the average firm, as shown in Figure 6 in the Annex. Since more mature and larger firms also tend to have more employees, it is necessary to control for these variables.

This paper also controls for two more variables relevant to PE-backed companies in Africa. Since the target companies are based in multiple countries, matching companies are based in the same countries. Companies based in different countries are not comparable because they are immersed in a different economic context. Second, both groups are balanced regarding the number of investors and AUM based in Africa. This was part of the matching design to control the potential relation between the origin of funds and employment (Guery et al., 2017). Since a susbtantial proportion of funds is expected to come from outside the continent, this is a relevant variable to control.

**Findings**

According to the theoretical expectations derived from scholarship on financialization, PE financing would be associated with comparably lower employment. On the contrary, PE-backed companies had a consistently higher average number of employees than the comparison group. At the same time, they did not seem more prone to go out of business or go through reorganizations than corporate-backed companies. Therefore, PE-backed companies had a comparatively higher number of employees without going out of business at a higher rate.

Moreover, growth transactions are more consistently associated with higher employment than buyouts. The sub-group of PE-backed companies acquired through a growth transaction showed a persistent and statistically significant difference in their favor. For the most part, companies financed through a buyout did not have such a difference in employment. It follows that this analysis does not find any evidence of "job destruction" in PE takeovers, and it suggests that growth transactions may be particularly associated with high employment levels.

**(A) Results on the organizational form**

The target group of PE-backed companies had a statistically significant and positive difference in employment with the comparison group. The significance of the results in Table 4 allows the rejection of the null hypothesis in favor of the alternate. In all the periods considered, there is a difference in employment in favor of PE-backed companies over Corporate-backed companies. This result counters the theoretical expectations from the literature on financialization, which held that PE-backed African companies would have lower employment outcomes than comparable corporate-backed companies. Moreover, the results in Table 5 dispel concerns that these employment outcomes may be distorted by "survival bias" or restructuring.

There was no statistically significant difference between the PE-backed target group and the corporate-backed comparison in the number of companies going out of business or being merged and acquired.

Table 4: Results on Employment

| Difference between target and comparison groups | Number of Employees (A) | | | |
|---|---|---|---|---|
| | Year 0 (1) | Year 3 (2) | Year 4 (3) | Year 5 (4) |
| 1. PE-backed | 460.44* | 287.96* | 449.14** | 312.01*** |
| | (188.64) | (126.13) | (152.42) | (78.87) |
| p-value | 0.016 | 0.023 | 0.004 | 0.000 |
| Transaction Type | | | | |
| 1.1 Buyout | 241.86 | 224.50 | 595.96 | 412.59* |
| | (155.78) | (164.34) | (334.13) | (179.83) |
| p-value | 0.125 | 0.177 | 0.082 | 0.028 |
| 1.2 Growth | 573.99* | 316.25* | 366.42* | 251.34*** |
| | (262.34) | (150.38) | (138.86) | (64.15) |
| p-value | 0.031 | 0.037 | 0.01 | 0.000 |

**Notes**. This table was adapted from Jensen (2010). The null hypothesis is that there is no significant difference between the average number of employees at PE-backed and Corporate-backed companies ($H_0: |\bar{y}_{PE-backed\ t} - \bar{y}_{Corporate-backed\ t}| = 0$). The standard error for each t-test is reported in parentheses. Statistical significance: p-value < 0.001: *** (3 stars), p-value < 0.01: ** (2 stars), p-value < 0.05: * (1 star).

Moreover, the employment difference in favor of PE-backed companies is rather large. Across the four periods, PE-backed companies had, on average, 377 more employees than the comparison group. A way in which Jensen (2010) evaluates the size of the difference between target and comparison groups is to consider it as a proportion of the mean in the comparison group. In this study, the difference in employment was 172% of the mean in the comparison group on the year of financing and increased to 188% three years after financing. There was a noticeable increase in the following periods, reaching 565% four years after and 623% over five years after financing. These values indicate a large difference in favor of PE-backed companies on employment relative to the comparison group.

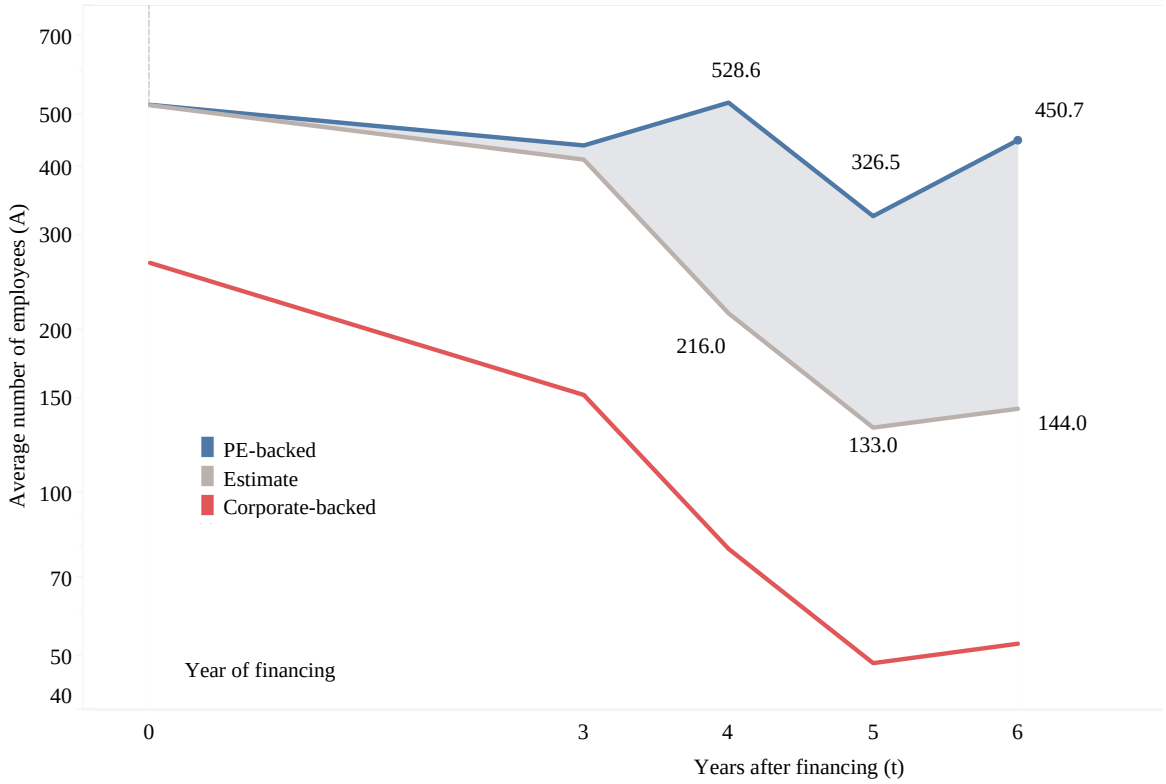
Table 5: Results on Bankruptcy and Company Reorganization

| Difference between target and comparison groups | Out of Business (B) | | | | Merged/Acquired (C) | | | |
|---|---|---|---|---|---|---|---|---|
| | Year 0 (1) | Year 3 (2) | Year 4 (3) | Year 5 (4) | Year 0 (1) | Year 3 (2) | Year 4 (3) | Year 5 (4) |
| 1. PE-backed | 0.01 (0.02) | -0.05 (0.03) | -0.01 (0.02) | -0.03 (0.03) | -0.07 (0.06) | 0.02 (0.04) | -0.01 (0.05) | -0.07 (0.05) |
| p-value | 0.55 | 0.052 | 0.653 | 0.302 | 0.216 | 0.557 | 0.785 | 0.154 |
| Transaction Type | | | | | | | | |
| 1.1 Buyout | -0.01 (0.01) | -0.01 (0.04) | -0.03 (0.02) | -0.06* (0.02) | 0.09 (0.09) | 0.09 (0.07) | 0.05 (0.07) | 0.06 (0.08) |
| p-value | 0.319 | 0.767 | 0.083 | 0.014 | 0.301 | 0.219 | 0.479 | 0.479 |
| 1.2 Growth | 0.02 (0.02) | -0.07** (0.02) | 0.00 (0.03) | -0.012 (0.04) | -0.15** (0.09) | -0.01 (0.04) | -0.01 (0.05) | -0.15** (0.05) |
| p-value | 0.381 | 0.004 | 0.964 | 0.732 | 0.007 | 0.917 | 0.785 | 0.001 |

**Notes**. This table was adapted from Jensen (2010) for this study. The null hypothesis is that there is no significant difference between the average values of PE-backed and Corporate-backed companies ($H_0$: $|\bar{y}_{PE-backed\ t} - \bar{y}_{Corporate-backed\ t}| = 0$ ). The standard error for each t-test is reported in parentheses. Statistical significance: p-value < 0.001: *** (3 stars), p-value < 0.01: ** (2 stars), p-value < 0.05: * (1 star).

In addition to being statistically significant and large, the difference in favor of the target group is also consistent. PE-backed companies had higher average employment throughout the four periods, as shown in Table 4. Over five years after financing, PE-backed companies retained, on average, 312 more employees than the comparison group. Moreover, Figure 9 represents the employment trends of both groups following their year of financing. It offers an estimate to visualize the employment difference between the target and comparison groups if they started from the same level of employment. These trends suggest that while PE-backed companies begin with higher average employment, this difference increases four years after financing and persists thereon. Indeed, six years after financing, PE-backed companies had an average of 396 more employees than the comparison group and 306 more than the estimated trend.

Figure 9: Employment Trends After Financing




**Notes**. This figure describes the employment trends of the target (PE-backed) and comparison (Corporate-backed) groups following financing. In addition to the four periods considered in Table 4, a fifth period was added with the companies for which employment data was available six years after financing. In grey, the "Estimate" line is based on the corporate-backed companies but is adjusted based on the initial difference between groups. This was computed as the comparison group plus the difference between groups on the year of financing ($Estimate_t = \bar{y}_{Corporate-backed\ t} + (\bar{y}_{PE-backed\ t=0} - \bar{y}_{Corporate-backed\ t=0})$). The purpose of this estimate is to visualize the difference between the target and comparison groups had they started from the same level of employment.

**(B) Results on the transaction type**

Both subgroups of PE-backed companies show positive differences with the comparison group throughout the four periods. However, companies acquired in a growth transaction are more consistently associated with high employment than those acquired in a buyout. While there is a statistically significant difference between growth PE-backed companies and the comparison, buyout PE-backed companies do not show such a consistent difference.

In Table 4, PE-backed companies acquired in a growth transaction show a persistent and statistically significant employment difference in their favor. The null hypothesis can be rejected

confidently for companies acquired through a growth transaction. As in the larger group of PE-backed companies, there is a large and consistent difference in employment in their favor. Five years after first financing, companies acquired in a growth transaction had, on average, 251 employees more than corporate-backed companies.

In comparison, companies that received financing through LBO only show a weakly significant difference over five years after financing. For the remaining periods, the null hypothesis cannot be rejected for PE-backed companies acquired through a buyout. Mostly, no statistically significant difference exists in employment between companies acquired in a buyout and the comparison group. These results suggest that growth PE-backed companies have consistently higher employment levels than those acquired through a buyout.

In addition, Table 5 shows that the incidence of bankruptcy and reorganization was not higher in either transaction type than in the comparison. Neither the buyout nor the growth groups had a significant and positive difference in either outcome. Whenever there was a statistically significant result, the difference was negative, meaning that PE-backed companies in either type of transaction went into bankruptcy or were reorganized at a lower rate than their comparison. This outcome is inconsistent with the expectation that the high use of leverage would lead to a higher risk of bankruptcy. Even those companies financed through a buyout, which usually make substantial use of debt, did not go out of business at a higher rate than the companies in the comparison group.

**Future Research Avenues**

The potential employment spillovers from the emergence of PE markets in Africa represent a relevant interdisciplinary topic for research in Economics and IPE. Future studies could adopt the objectives of development program evaluation and combine them with methodological approaches from financial economics to assess the potential employment costs to promote PE financing. Research could pursue Woolcock's (2009) two complementary objectives of program evaluation by drawing upon methods that fit the study of PE markets.

The first challenge of evaluating PE promotion in Woolcock (2009) is the identification of the counterfactual. That is, the outcomes that would have been obtained had the company not received PE financing. Development literature has developed increasingly rigorous methods of identifying an applicable counterfactual for a particular type of intervention. However, these methods are limited in their object of study and cannot feasibly be applied to PE firms. Instead, the literature on financial economics has developed methods that are fit for the study of PE markets. Observational studies in this literature have identified public corporations as a suitable control group for PE firms. The long-standing comparison between these two organizational forms offers a useful test for determining the outcomes of PE firms. Therefore, using companies backed by public corporations as a control group, future research could estimate the average effect of PE financing on employment.

**(A) Finding the average treatment effect**

While this paper falls short of causal identification, further research could follow Davis et al. (2014) and perform a large sample difference-in-difference (DiD) analysis. This current paper used the variation in employment across groups to find the difference in means between PE-

backed and Corporate-backed companies. Instead, a DiD analysis would leverage employment variation across time and groups. Instead of the difference in means, the estimand of interest in the DiD setup is the average treatment effect on the treated (ATT). Following, the canonical model presented in Roth et al. (2023) is adapted for this analysis. Let $Y_{i,t}$ represent the employment outcome for the company *i* in year *t*, while $D_i$ indicates its funding status. In this notation, a treatment status of $D_i$ = P represents a unit that received PE financing on period $t = 0$, whereas $D_i$ = C signals units that received corporate financing on period $t = 0$. This future model would consist of three components:

- $Y_t$ : Employment outcome at period *t*.
- Two groups: $G$ = P (PE financing) and $G$ = C (Corporate financing).
- Seven time periods: $t = -1$ (before financing), 0 (year of financing), $t = 1$ (one year after financing), $t = 2$ (two years), t = 3 (three years), $t = 4$ (four years) and $t = 5$ (over five years).

The statistics of interest of this current paper are the simple difference between two groups for a given period after financing. Model (1) below represents this simple difference in means. These differences do not account for the baseline difference in employment. Future research could move towards model (2), which subtracts the baseline difference in employment from their difference after financing to estimate the average effect of PE financing on the employment outcomes of African companies.

*(1)* Simple difference

$$\tau_t = [E(Y_{i,t>-1} | G = P) - E(Y_{i,t>-1} | G = C)]$$

*(2)* Difference-in-difference (DiD)

$$ATT = [E(Y_{i,t>-1} | G = P) - E(Y_{i,t>-1} | G = C)] - [E(Y_{i,t=-1} | G = P) - E(Y_{i,t=-1} | G = C)]$$

The central obstacle to achieving this outcome is the availability of company-level employment data before financing. To compute the ATT of PE financing in Africa, future researchers must find the number of employees before financing, or $Y_{i,t} = -1$, for each company considered. This data is typically unavailable at financial information services like Pitchbook or Capital IQ because companies are featured in their databases once they have received financing. Since the data collection for this analysis started in the year of financing, it could not perform a DiD analysis. In Africa, where data availability is challenging, finding baseline employment data for PE-backed companies is the first obstacle for future research to estimate the average effect of PE financing on employment.

**(B) Projecting the impact trajectory**

The second objective for future research is to generate a sense of the long-term effects of PE financing on employment. Woolcock (2009) refers to projecting the impact trajectory of an intervention as a critical challenge of development program evaluation. The impact trajectory refers to the expected outcomes of intervention over a long period. This aspect is particularly challenging because it depends on how the project interacts with the changing context in which it operates. The objective would be to project employment outcomes beyond the five-year holding period of PE firms. Future research could achieve this objective by projecting long-term trends and considering how the further development of financial markets in the region might affect employment outcomes.

The impact trajectory of PE financing on employment may vary according to the operating context. As Davis et al. (2014) point out, the negligible employment differences in the US may not hold in financial markets with little depth and low development. Indeed, in fledgling

PE markets, Boucly et al. (2009) and this paper find large employment differences in favor of PE-backed firms. What the effects of PE financing may be, how long it takes for them to be noticeable, and how long they will endure can be as varied as the idiosyncrasies of the context in which it takes place. While static outcomes may indicate a high impact on employment, it is uncertain how the effect may change as the context changes and financial markets continue to gain depth. Therefore, generating a sense of the long-term employment effects of PE financing in the context of developing African PE markets is necessary.

In a scenario of low financial market development, the emergence of PE markets can enable growth and boost employment. In this low-depth setting, PE firms would select capital-constrained companies with growth opportunities to overcome the limitations of developing financial markets. In their study of France, Boucly et al. (2009) attribute high employment differences to PE financing, serving to relax the high financing constraints on company growth. In such low-depth markets, companies may be prevented from pursuing growth opportunities due to the lack of access to funding. At the same time, low financial market depth means fewer exit opportunities from investments. This limits the activity of investors considering exit opportunities necessary to enter a market. Therefore, due to the high financing constraints, the initial entry of PE firms into developing markets to contribute capital for company growth can have an outsized effect on employment.

However, the effects of PE financing on employment may change as financial markets develop. If the depth and accessibility trends observed in Figure 1 continue, this may significantly change the operating context for African companies. As African PE markets continue to gain depth, the employment outcomes to PE financing may decrease and approach the negligible differences that Davis et al. (2011; 2013) find in the US. Deeper financial markets

offer more exit opportunities and thus promote the entrance of PE firms. Then, greater accessibility would reduce the financing constraints on companies, depleting the pool of capital-constrained companies with growth opportunities. Therefore, in a later stage of financial market development, there may not be a significant employment difference associated with PE financing. In projecting the impact trajectory of PE financing, future research must consider the development of African financial markets towards a setting of high financial market depth.

## Conclusions

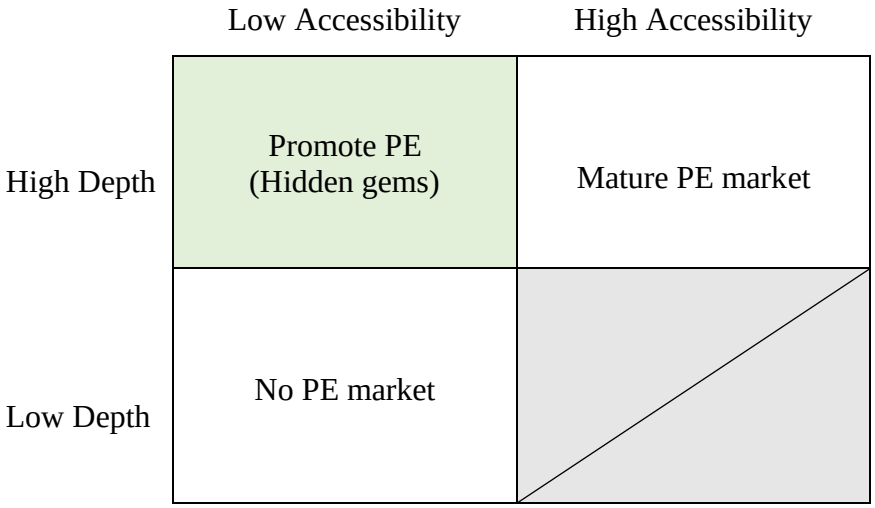
This paper does not find evidence of PE being associated with "job destruction." On the contrary, it finds comparatively higher employment levels at African PE-backed companies. These findings are evidence against the theoretical expectations that associate the organizational form of PE firms with low employment. However, this analysis does find some evidence that different types of transactions can be associated with varying levels of employment. Growth transactions seem to be consistently associated with comparatively higher employment levels. Meanwhile, companies acquired in buyouts do not have such a consistent and statistically significant difference in employment with corporate-backed companies.

This positive difference in employment is inconsistent with the slight or negligible employment differences found in Davis et al. (2011; 2013). It also does not align with the negative differences found in Davis et al. (2008) or the theoretical expectations of Applebaum and Blatt (2014). This discrepancy is explained by the fact that the object of these studies was mature PE markets in countries with high financial development. Instead, high employment at PE-backed companies is consistent with the results of Boucly et al. (2009) on an emerging PE market in France. The results of this present study fit the academic literature on emerging PE markets, which conveys a conspicuous employment pattern. While PE-backed companies in mature markets do not have comparably higher employment, PE-backed companies in immature markets do have high differences in employment with comparable companies.

The interpretation of these results aligns with the growth perspective on PE and employment in developing countries. Boucly et al. (2009) argue that in the context of low-financial development in France, PE financing boosted employment by relaxing the high

financing constraints on companies. This interpretation may also apply to the African setting where companies with the opportunity to grow are constrained by their limited access to financing. While the idiosyncrasies of each market should not be disregarded, the broad implication is that PE firms may help to reduce these financing constraints and thus enable employment growth in African countries. Boucly et al. (2009) elaborate further that PE firms are associated with higher employment because they can identify "hidden gems" in immature markets. They select capital-constrained companies with promising growth opportunities and fund their growth, enabling them to employ more workers.

Figure 10: A rational for Private Equity promotion according to financial market development




**Notes**. According to the IMF (n.d.) financial market 'depth' refers to the level of activity and volume of transactions in a given market. The IMF Financial Markets Depth Index (FMD) compiles data on international debt securities of government to GDP and total debt securities of financial and non-financial corporations to GDP. On the other hand, financial market 'access' refers to the ease with which companies obtain funding. The Financial Market Access Index (FMA) compiles data on the percent of market capitalizations outside of the 10 top largest companies and the total number of debt issuers (domestic and external, non-financial, and financial corporations) per 100,000 adults.

The growth perspective assumes the existence of "hidden gems" in developing countries which PE firms can identify. Therefore, for PE financing to be associated with high employment, there must be a pool of companies that could grow if they had better access to financial markets. PE firms would then enter a market and fund their growth. However, if the financial market in a country develops and companies gain access to financing, constrained growth opportunities are

bound to become scarcer. Then, as countries develop their financial markets, they deplete this potential pool of "hidden gems." Once they reach maturity, the association between PE and high employment could dissipate. To study the effect of PE on employment and how it evolves in the long run, researchers could produce a DiD estimate of the average effect on employment and project the trajectory of this impact as financial markets develop in Africa. In combining these two objectives of project evaluation, future research could more accurately assess the role of PE promotion within a national development strategy.

While preliminary, the findings of this paper point towards two main recommendations. The first is that policies such as "co-investment" facilities can be implemented to attract investments without large employment costs. Indeed, these results suggest that promoting PE may be a suitable component of development policy. However, policymakers should remain cautious about takeovers with high leverage use. The second is a cursory rationale for the selection of markets for PE promotion. The optimum scenario meets the depth and accessibility conditions set in Figure 10. In the first place, there must first be sufficient financial depth for PE firms to enter the market, as they consider exit opportunities a necessary condition (Babarinde, 2012; Fonkam et al., 2019). In addition, there must still be some constraints in the access to financing, so that there are companies in that market that have unfunded growth opportunities.

Developing countries with high financial depth and low financial accessibility can leverage PE to channel capital to their companies. At the intersection of these two conditions, there is a window of opportunity in which PE can be useful to enable their growth of "hidden gems" without employment costs. It follows that national and international policymakers should continue to draw PE firms towards developing markets as a way to ease the financing constraints on companies and fuel their growth.

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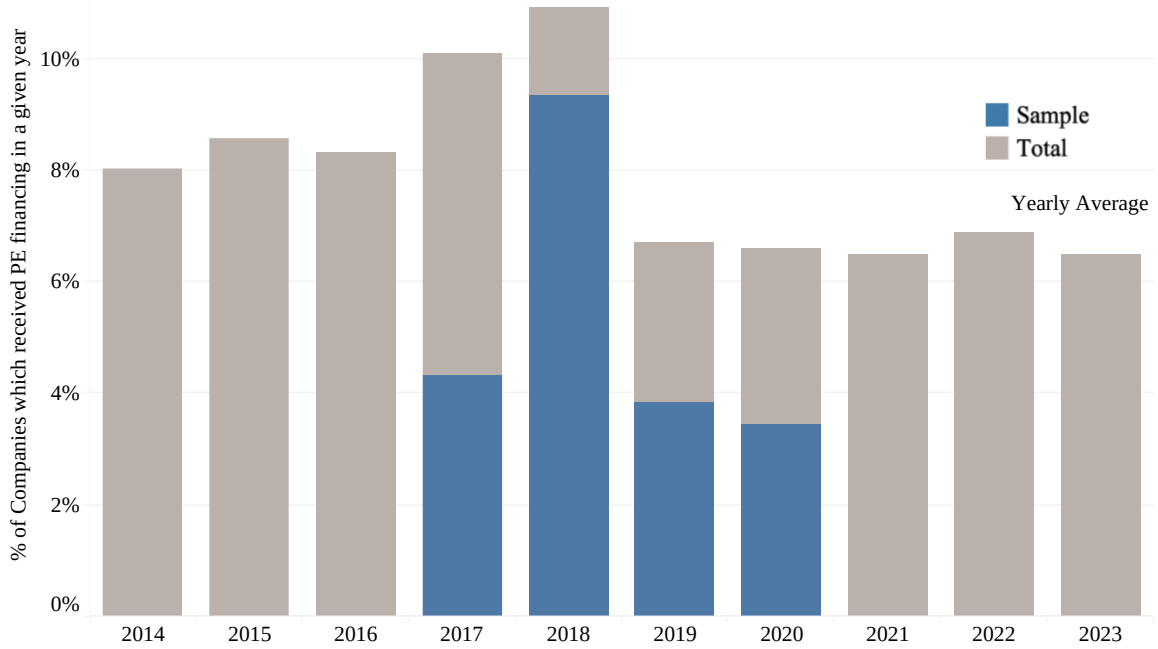
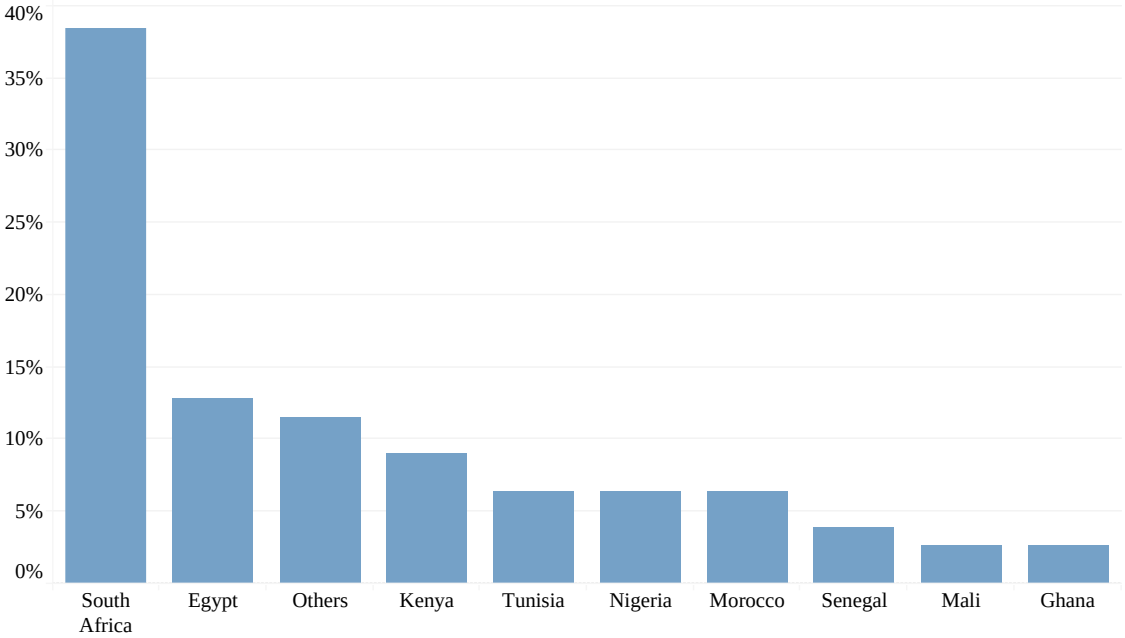
## Annex

Figure 3**:** Distribution of PE financing in Africa by year



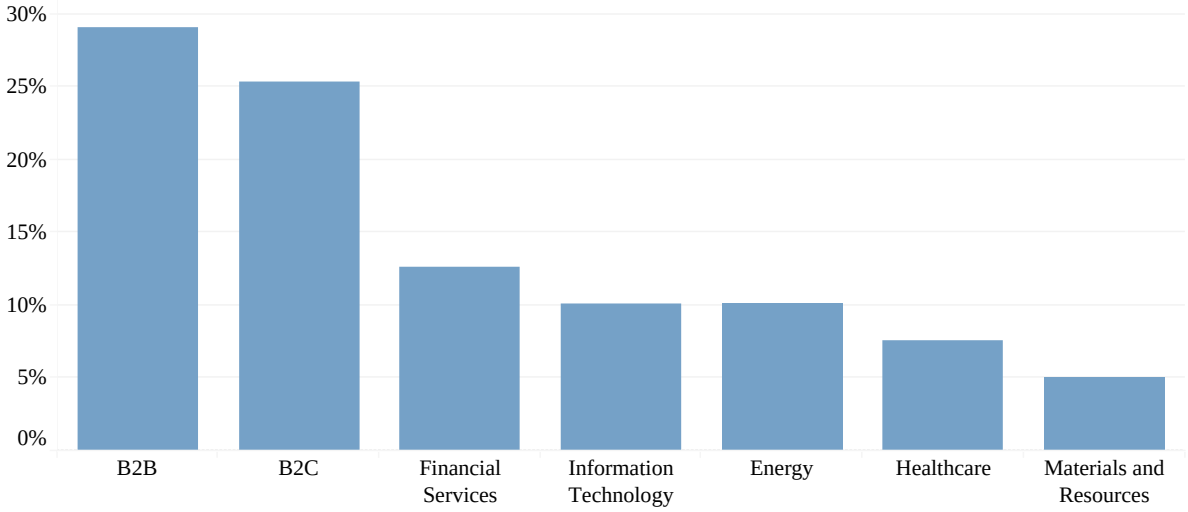

**Notes**. This figure presents the distribution of African PE-backed companies recorded in Pitchbook by year from 2014 to 2023. The sample of 120 PE-backed companies is represented in blue. This sample accounts for 37,85% of the total number of companies that received PE financing between 2017 and 2020. The same sample equals 20,91% of the total number of PE-backed companies from 2014 to 2023. On average, just 40 companies, or 7% of the total, receive PE financing per year.

Figure 4: Distribution of PE-backed companies by country



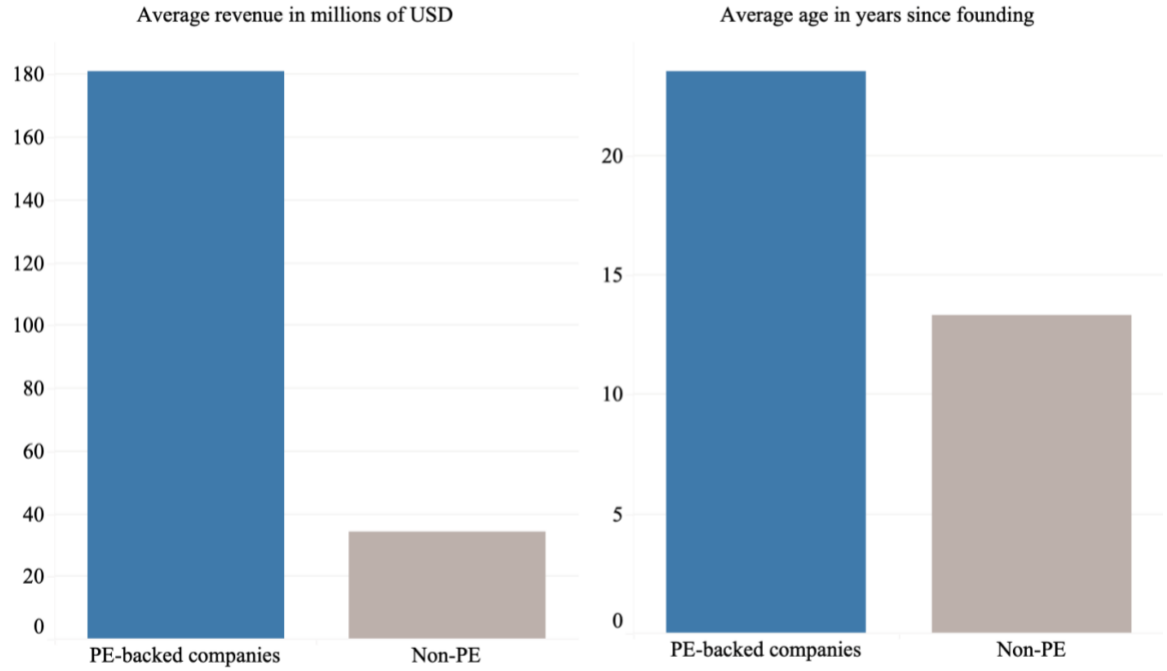

**Notes.** Figure 4 presents the distribution of PE-backed companies by country. South Africa is the regional leader, with 38,46% of the 120 PE-backed companies in the sample collected from Pitchbook. Countries with less than 2% of African PE-backed companies were grouped in "Others." These include Mali, Namibia, Sierra Leone, Burkina Faso, Gabon, Tanzania, Ethiopia and Ivory Coast.

Figure 5: Distribution of PE-backed companies by industry



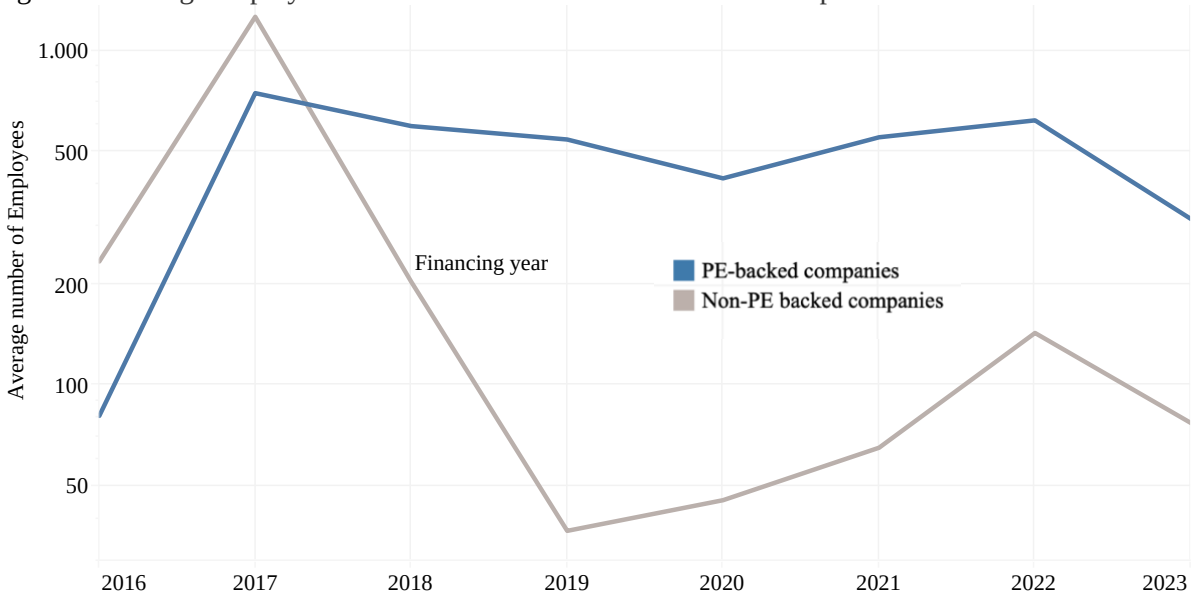

**Notes.** Figure 5 presents the distribution of PE-backed companies by industry. Categories were taken from Pitchbook's seven primary sector labels. Most PE-backed companies, 54,4% of 120 companies, are in the Business-to-Business (B2B) or Business-to-Consumer (B2C) transactions of products and services.

Figure 6: Average revenue and age of PE and Non-PE-backed companies.



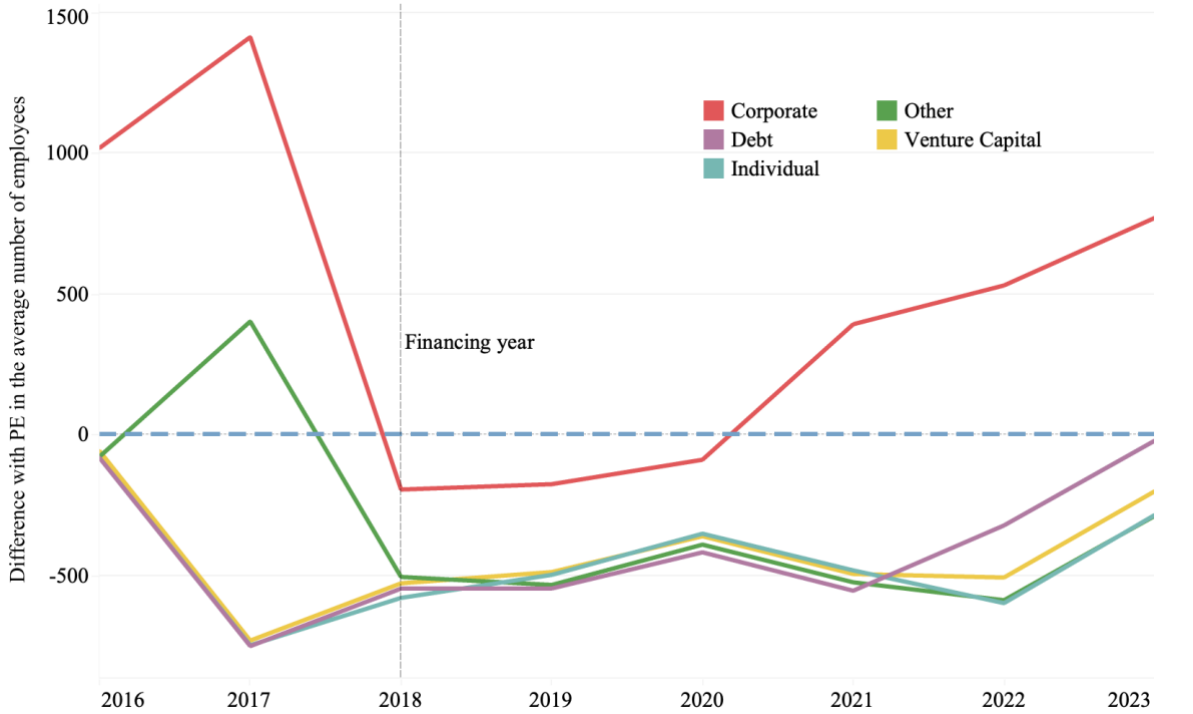

**Notes**. Figure 6 presents the average revenue and age of PE-backed and non-PE-backed African companies. "Non-PE" encompasses companies financed by any other type of investor considered in Pitchbook. Averages were computed from a sample of 317 companies that received financing from 2017 to 2020. Out of these, 120 or 37,85% were backed by a PE firm.

Figure 7: Average employment at PE-backed and non-PE-backed companies.




**Notes**. Figure 7 presents the average number of employees and ages of PE-backed and non-PE-backed African companies. "Non-P'E' encompasses companies financed by any other type of investor considered in Pitchbook. Averages were computed from a sample of 317 companies, of which a PE firm backed 120 or 37,85%.

Figure 8: Difference in employment between PE-backed companies and other investor types.




**Notes.** Figure 8 shows the difference in the average number of employees between PE-backed companies and companies backed by one of the other five investor types recorded in Pitchbook. The reference line at zero signals the points at which each group had the same average number of employees as PE-backed companies. Corporate-backed companies are the only group that exceeds the average number of employees at PE-backed companies before investment and three to five years after.